

AMENDMENTS TO THE CLAIMS:

1. (PREVIOUSLY PRESENTED) An electronic device comprising:

a primary-function circuit; and

a voltage regulator operable to protect the primary-function circuit from an external voltage signal outside a predetermined range when the electronic device is in a normal mode and responsive to a stress-enable signal operable to supply an output voltage signal to the primary-function circuit, the output voltage signal being at one of a first voltage level in the normal mode and a second voltage level in a stress mode dependent upon the stress-enable signal,

wherein the primary function circuit and the voltage regulator are integrated in the electronic device.

2. (PREVIOUSLY PRESENTED) An electronic device in accordance with claim 1, further comprising a voltage detector responsive to the external voltage signal and operable to produce the stress-enable signal, the stress-enable signal being indicative of whether or not the external voltage signal is within the predetermined range.

3. (ORIGINAL) An electronic device in accordance with claim 1, wherein the voltage regulator comprises a voltage divider having a variable resistance element.

4. (ORIGINAL) An electronic device in accordance with claim 3, wherein the variable resistance element of the voltage divider comprises a resistor coupled in parallel with a

transistor, and wherein the gate of the transistor is controlled by the stress-enable signal.

5. (CURRENTLY AMENDED) An electronic device in accordance with claim 3, wherein the voltage regulator further comprises:

a reference voltage generator;

a first ~~voltage-follower~~ differential amplifier coupled to the reference voltage generator and to a first position in the voltage divider and operable to control the voltage divider in a feedback loop.

6. (CURRENTLY AMENDED) An electronic device in accordance with claim 5, wherein the voltage regulator further comprises a second ~~voltage-follower~~ differential amplifier coupled to a second position in the voltage divider and to the output voltage signal and operable to control the level of the output voltage signal in the feedback loop.

7. (CURRENTLY AMENDED) An electronic device in accordance with claim 6, further comprising an output stage having an output transistor operable to produce the output voltage signal, wherein the output from the second differential amplifier ~~voltage-follower~~ is coupled to the gate of the output transistor.

8. (ORIGINAL) An electronic device in accordance with claim 7, wherein the output stage further comprises a capacitor, the output transistor and the capacitor being connected in series between a voltage supply and a ground.

9. (CURRENTLY AMENDED) An electronic device in accordance with claim 6, wherein at least one of the first and second differential amplifiers ~~voltage followers~~ comprises a difference amplifier.

10. (ORIGINAL) An electronic device in accordance with claim 9, wherein the difference amplifier includes a current mirror biasing circuit.

11. (ORIGINAL) An electronic device in accordance with claim 9, wherein the difference amplifier includes current mirror loading.

12. (ORIGINAL) An electronic device in accordance with claim 5, wherein the reference voltage generator comprises a bandgap voltage generator.

13. (PREVIOUSLY PRESENTED) A method for testing an electronic device having an integrated voltage regulator operable to produce a regulated voltage signal, the method comprising:

receiving a stress-enable signal indicative of whether a stress-mode is to be invoked;
and

if the stress-mode is be invoked:

controlling the level of the regulated voltage signal to a predetermined test level
and providing a primary-function circuit of the electronic device with the
predetermined test level in the stress-mode of the electronic device;

otherwise

controlling the level of the regulated voltage signal to a predetermined normal operating level in a normal mode of the electronic device in which the primary-function circuit of the electronic device is protected from an external voltage signal outside a predetermined range that is supplied to the electronic device.

14. (PREVIOUSLY PRESENTED) A method in accordance with claim 13, wherein the electronic device includes a voltage detector, further comprising:

supplying an external voltage signal to the voltage detector;

detecting the level of the external voltage signal; and

generating the stress-enable signal to invoke the stress-mode if the level of the external voltage signal is outside of the predetermined range.

15. (ORIGINAL) A method in accordance with claim 14, wherein the predetermined test level of the regulated voltage signal is higher than the predetermined normal operating level, thereby enabling the device to be stressed during testing.

16. (ORIGINAL) A method in accordance with claim 13, wherein the voltage regulator incorporates a voltage divider having a variable resistance element, the method further comprising:

supplying the stress-enable signal to the voltage divider; and

adjusting the resistance of the variable resistance element dependent upon the stress enable signal.

17. (ORIGINAL) A method in accordance with claim 16, wherein adjusting the variable resistance element in the voltage divider dependent comprises:

supplying the stress-enable signal to the gate of a transistor, the transistor being coupled in parallel with a resistor of the voltage divider.

18. (CURRENTLY AMENDED) A method in accordance with claim 15, wherein the voltage regulator ~~incorporates~~ comprises a first differential amplifier ~~voltage-follower~~, the method further comprising:

supplying a first voltage signal from a first point in the voltage divider to a first input of the first differential amplifier ~~voltage-follower~~;

supplying a reference voltage to a second input of the first differential amplifier ~~voltage-follower~~; and

supplying the output of the first differential amplifier ~~voltage-follower~~ to the voltage divider to thereby control the voltage at the first point in the voltage divider in a feedback loop.

19. (ORIGINAL) A method in accordance with claim 18, further comprising generating the reference voltage using a bandgap voltage generator.

20. (CURRENTLY AMENDED) A method in accordance with claim 16, wherein the voltage regulator incorporates a second differential amplifier ~~voltage follower~~ coupled to an output stage, the method further comprising:

supplying a second voltage signal from a second point in the voltage divider to a first input of the second differential amplifier ~~voltage follower~~;

supplying the regulated voltage signal to a second input of the second differential amplifier ~~voltage follower~~; and

supplying the output of the second differential amplifier ~~voltage follower~~ to the output stage to control the regulated voltage signal in a feedback loop.